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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,579	12/06/2000	Terrence J. Riley	2000.045200	9800
23720	7590	09/09/2004	<div>EXAMINER</div> <div>ORTIZ RODRIGUEZ, CARLOS R</div>	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			<div>ART UNIT</div> <div>2125</div>	<div>PAPER NUMBER</div>

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/731,579	TERRENCE RILEY ET AL.	
	Examiner	Art Unit	
	Carlos Ortiz-Rodriguez	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-34 is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-14, 21-24 and 35 is/are rejected.
- 7) ☒ Claim(s) 5-10, 15-20, 25-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) <input type="checkbox"/> | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. Claims 31-34 allowed.

Claim Objections

2. Claims 5-10, 15-20, and 25-30 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 11-14, 21-24, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tigelaar et al. U.S Patent No. 5,410,162 in view of Chen U.S. Patent No. 5,719,796.

Regarding claims 1, 11 and 21, Tigelaar et al. discloses a method comprising:

measuring at least one characteristic parameter of processing performed on a workpiece in a processing step (Abstract L9-14 and C5 L10-15); modeling the at least one characteristic parameter measured using a model (C5 L10-15); and applying the model to modify the processing performed in the processing step (C3 L43-46).

But, Tigelaar et al. fails to clearly disclose that the model is a correlation model.

However, Chen discloses a correlation model for modeling characteristic parameters (C11 7-18).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Tigelaar et al. and combining it with the invention disclosed by Chen. The results of this combination would lead to apparatus for and method of rapid testing of semiconductor components at elevated temperature.

One of ordinary skill in the art would have been motivated to do this modification because many correlation models are frequently utilized in the art for datasets in order to obtain high accuracy as suggested by Chen.

Regarding claims 2, 12, and 22, Tigelaar et al. in combination with Chen discloses all the limitations of the base claims. Tigelaar et al. in combination with Chen further discloses wherein measuring the at least one characteristic parameter of the processing performed on the workpiece in the processing step comprises measuring the at least one characteristic parameter at a wafer electrical test (WET) (see Tigelaar et al. Abstract L9-14).

Regarding claims 3, 4, 13, 14, 23 and 24 Tigelaar et al. in combination with Chen discloses all the limitations of the base claims. Tigelaar et al. in combination with Chen further discloses wherein measuring the at least one characteristic parameter of the processing performed on the workpiece in the processing step comprises measuring the at least one characteristic parameter of rapid thermal processing performed on the workpiece in a rapid thermal processing step (see Tigelaar et al. Abstract L9-14).

Regarding claim 35, Tigelaar et al. discloses a method, comprising: measuring at least one electrical characteristic parameter relating a rapid thermal process performed on a first workpiece (Abstract L9-14) modeling the at least one characteristic parameter measured using a model (C5 L10-15); and applying the model to modify said rapid thermal process performed on a second workpiece (C3 L43-46).

But, Tigelaar et al. fails to clearly disclose that the model is a correlation model.

However, Chen discloses a correlation model for modeling characteristic parameters (C11 7-18).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Tigelaar et al. and combining it with the invention disclosed by Chen. The results of this combination would lead to apparatus for and method of rapid testing of semiconductor components at elevated temperature.

One of ordinary skill in the art would have been motivated to do this modification because many correlation models are frequently utilized in the art for datasets in order to obtain high accuracy as suggested by Chen.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to method for adjusting rapid thermal processing (RTP) recipe setpoints based on wafer electrical test (WET) parameters:

- a. U.S. Pat. No. 6,184,048 to Ramon, which discloses testing method and apparatus assuring semiconductor device quality and reliability.
- b. U.S. Pat. No. 6,289,257 to Sekine, which discloses method and apparatus for analyzing correlation for semiconductor chips.
- c. U.S. Pat. No. 6,337,218 to Uzoh et al., which discloses method to test devices on high performance ULSI wafers.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is (703) 305-8009. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The central official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2125

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

A handwritten signature in black ink, appearing to read 'C. Ortiz-Rodriguez', written in a cursive style.

Carlos Ortiz-Rodriguez
Patent Examiner
Art Unit 2125

cror

September 7, 2004

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100